

*Agricultural "IPM Year" graphic and text courtesy of Cornell University*

**INTEGRATED PEST MANAGEMENT**

ENTM609 (4 credits)

Spring 2016

(Last Modified: March 9, 2016)

**Instructor:** Kelly A. Hamby

Department of Entomology

3124 Plant Sciences Bldg.

University of Maryland, College Park

301-314-1068

kahamby@umd.edu

**Office hours:** By appointment.

**Course sessions:**

Wednesday:               9AM-11AM    Lecture           Plant Sciences Bldg., Room 1161

                                   11AM-12PM Discussion      Plant Sciences Bldg., Room 1161

Friday:                        9AM-12PM    Laboratory     Plant Sciences Bldg., Room 1161

**Optional Textbooks:**

No specific text is required from this course. Required readings will include book chapters and journal articles.

Radcliffe EB, Hutchison WD, Cancelado RE (eds) (2015) Radcliffe's IPM World Textbook, URL: [http://ipmworld.umn.edu](http://ipmworld.umn.edu/), University of Minnesota, St. Paul, MN.

Pedigo LP, Rice ME (2009) Entomology and Pest Management, 6th ed. Pearson Education, Inc.

ISBN-13: 978-0-13-513295-1

National Research Council (1996) Ecologically Based Pest Management: New Solutions for a New Century. National Academies Press

ISBN-13: 978-0-309-05330-3

Vreysen MJB, Robinson AS, Hendrichs J (eds) (2007) Area-Wide Control of Insect Pests: From Research to Field Implementation. Springer.

ISBN -12: 978-1-4020-6059-5

Yu SJ (2008) The Toxicology and Biochemistry of Insecticides. Taylor and Francis Group, LLC.

ISBN-13: 978-1-4200-5975-5

**OVERVIEW**

Long-term global food security requires a sustainable increase in agricultural productivity to ensure the availability and accessibility of safe and nutritious food. Agricultural pests reduce global food production and threaten its sustainability. This course explores sustainable pest management in agroecosystems using the integrated pest management (IPM) paradigm. IPM is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and non-target organisms, and the environment. While this course focuses on pests of agroecosystems, we will also cover pests of structures, ornamentals, nurseries, greenhouses, and forestry to highlight the diverse applications of the IPM paradigm.

Because this course is mainly designed for the graduate students in the ENTM program, this course will heavily focus on arthropod pest management. However, senior undergraduates and graduate students from other programs are also encouraged and examples of other pests and problems in agroecosystems including pathogens and weeds will also be included in the course material.

**COURSE OBJECTIVES**

The proposed course is designed for students to:

1. Develop an understanding of the biology and ecology of pests,
2. Develop skills and knowledge required to develop an IPM program for pests,
3. Become familiar with pests of a diversity of urban, forest, and agroecosystems; and
4. Become familiar with current research relating to IPM.

 **ASSIGNMENTS**

1: Part 1: Find a definition for Integrated Pest Management and a list of the steps of an IPM program (be sure to cite your source!). Bring these two things in to class (10 pts)

    Part 2: E-mail me your pest of choice for assignments 2-4

2: 5 minute extension presentation on identifying damage and life history of your pest (20 pts)

3: 15 minute extension presentation on IPM of your pest (70 pts)

4: Extension fact sheet on your pest (1- 2 pages) (100 pts)

**GRADING**

Assignments                                                                                                             200 pts

Participation (leading/ participating in discussion, attendance)                               100 pts

Assessments (100 pts each)                                                                                     200 pts

----------------------------------------------------------------------------------------------------

Total                                                                                                                          500 pts

Course Grading Scale: A+ (100-97%), A (96-94%), A- (93-90%), B+ (89-87%), B (86-84%), B- (83-80%), C+ (79-77%), C (76-74%), C- (73-70%), D+ (69-67%), D (66-64%), D-(63-60%), F(<60%)